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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,813	11/28/2000	Yasuharu Asano	450100-02862	6411

20999 7590 04/13/2004  
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NEW YORK, NY 10151

EXAMINER

JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/723,813

Applicant(s)

ASANO ET AL.

Examiner

Jakieda R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-11 is/are allowed.
- 6) ☒ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. In response to the Office Action mailed November 14, 2003, applicant submitted an Amendment filed on February 17, 2004, in which the applicants traversed and requested reconsideration with respect to **claims 1-11**.

### *Response to Arguments*

2. Applicant's arguments filed February 17, 2004 have been fully considered but they are not persuasive. In response to applicant's argument (Amendment, pages 6 and 7) about two meanings of "voice recognition" the examiner notes that "recognition of the individual speaker" (Amendment page 6) is not recited in the rejected claim(s), (i.e. only speech recognition, words to be recognized (claim 4), etc. are claimed). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

3. Applicant has amended the claims where instead of the robot being controlled in accordance with the state, it is now being controlled in accordance with *action, emotion and instinct* states, which makes the claims more specific. So, applicant's amendment necessitated the new ground(s) of rejection for amended independent claims 1, 10, and 11 presented in this Office action.

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The dependent claims (claims 3-9) remain rejected as before in view of the listed prior art, which is discussed more in the Office Action.

Applicant has not responded to the obviousness double patenting rejections over 09/723,512, so that they are rejected below.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-3, 7-10** are rejected under 35 U.S.C. 102(b) as being anticipated by Edatsune (U.S. Patent No. 5,802,488, also EP 0730261, citation for the US Patent) in view of Dario et al. (Proceedings of IEEE, Instinctive Behaviors and Personalities in Societies of Cellular Robots 1991), hereinafter referenced as Dario.

Regarding **claim 1**, Edatsune discloses interactive speech recognition with varying responses for time of day and environmental conditions, hereinafter referenced as an "interactive speech recognition device". Edatsune's interactive speech recognition device is built in a stuffed toy dog (figure 1A; column 4, lines 25-28) comprising:

speech processing means for processing a speech input (speech recognition unit, figure 1A, element 5; column 1, lines 49-55); and

control means for controlling said speech processing means (drive control unit; figure 1B, element 7) based on a state of the robot (column 6, lines 37-51); wherein the state is determined by an action (col. 1, lines 8-10 and column 6,

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lines 52-54) but lacks wherein the state is determined by an emotion state and an instinct state of the robot.

Dario discloses a robotic being (abstract) wherein the state is determined by an emotion (fearful, disgusted, annoyed etc. page 1929) and an instinct state of the robot instinctive reactions (page 1928).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edatsune's invention such that the state is determined by an emotion state and an instinct state of the robot, because Dario teaches that this provides robustness to the robotic system by allowing each unit to modify the behavior of other units, thus simulating a fundamental aspect of social interaction between robots (page 1928), to emphasize the roles of "innate" personality, external stimuli, and communication.

Regarding **claim 2**, Edatsune discloses an interactive speech recognition device wherein said emotion and instinct states correspond to values of an emotion model and an instinct model (Aerial; pages 1928-1929), respectively.

Regarding **claim 3**, Edatsune discloses an interactive speech recognition device wherein speech processing means comprises speech synthesizing means for performing speech synthesizing processing and outputting synthesized sound (figure 1a, element 6; column 2, lines 7-10); and

wherein said control means control the speech synthesizing processing by said speech synthesizing means, based on the state of the robot (figure 1B, element 7; column 6, lines 37-51).

Regarding **claim 7**, Edatsune discloses an interactive speech recognition device wherein said speech processing means comprises speech recognizing means for recognizing the speech input (column 1, lines 8-10); and

wherein said robot takes action corresponding to the reliability of the speech recognition results output from said speech recognizing means (column 1, lines 8-10), or the emotion of said robot is changed based on said reliability.

Regarding **claim 8**, Edatsune discloses an interactive speech recognition device wherein said control means recognizes the action which said robot is taking, and controls speech processing by said speech processing means based on the load regarding the action (column 1, lines 8-10).

Regarding **claim 9**, Edatsune discloses an interactive speech recognition device wherein said robot takes action corresponding to resources which can be appropriated to speech processing by said speech processing means (column 1, lines 8-10 with column 3, lines 58-62).

Regarding **claim 10**, the method is inherent in the device and is interpreted and rejected for the same reasons as set forth in **claim 1**.

6. **Claims 4-6 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Edatsune in view of Dario in further view of Henton (U.S. Patent No. 5,860,064)

Regarding **claim 4**, Edatsune in view of Dario disclose an interactive speech recognition device control but fail to disclose that the control means

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control phonemics information and pitch information output by said speech synthesizing means.

Henton discloses that the control means control phonemics information (column 1, line 67 – column 2, lines 1-7) and pitch information (column 2, lines 8-10) output by speech synthesizing means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edatsune's interactive speech recognition device such that it included a control means to control phonemics and pitch information to appropriately express the state of emotions of the robot.

Regarding **claim 5**, Edatsune in view of Dario disclose an interactive speech recognition device but lack the control means controlling the speed and volume.

Henton discloses that the said control means (speech synthesizer) control the speech speed (table 1) or volume (table 1) of synthesized sound output by said speech synthesizing means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edatsune's interactive speech recognition device such that it has control means for controlling the speed and volume so that the robot can express emotions to the user with both motions and synthesized sound to make the interaction more real.

Regarding **claim 6**, Edatsune in view of Dario disclose an interactive speech recognition device but lack the control pitch or phonemics information of the input speech and wherein the emotion state is based on that information.



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Henton discloses that said speech processing means extract the control pitch information or phonemics information of the input speech (column 1, line 67 – column 2, lines 1-7); and

wherein the emotion state of said robot is changed based on said pitch information or phonemics information (column 3, lines 24-31), thus said robot takes actions corresponding to said pitch information or phonemics information.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edatsune's interactive speech recognition device such that it has the control pitch or phonemics information of the input speech and wherein the emotion state is based on that information to make the speech produced more interesting and not deficient in vocal emotionality and to provide vocal emotion sound qualities to synthetic speech.

Regarding **claim 11**, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a recording medium to store data such as computer executable code for controlling actions, speech recognition etc because of the ease in updating the system.

**Double Patenting**

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. **Claims 1 and 10-11** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1 and 10-11** of copending Application No.09/723,512 in view of Edatsune (U.S. Patent No. 5,802,488). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Regarding **claims 1 and 10-11**, 09/723,512 recites a speech recognition apparatus (a speech processing device), a speech recognition (speech processing) method and a storage (recording) medium on which recording programs to be executed by a computer disposed (built) into a robot, comprising:

speech recognition means (speech processing means) for recognizing (processing) speech; and

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control means for controlling said speech recognition (processing) means in accordance with a growth state of said robot (action, emotion and instinct states; claim 1).

Although 09/723,813 controls said speech recognition (processing) means in accordance with action, emotion and instinct state and 09/723,512 controls said speech processing (recognition) means in accordance a growth state, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an interactive speech recognition device that possess a function for detecting changes in circumstance or environment and that can respond to speech issued by taking in account those different states, to enable a more sophisticated interaction which allows more advanced technology for keeping children, adults etc. interested (column 1, lines 23-46).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R Jackson whose telephone number is 703.305.5593. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

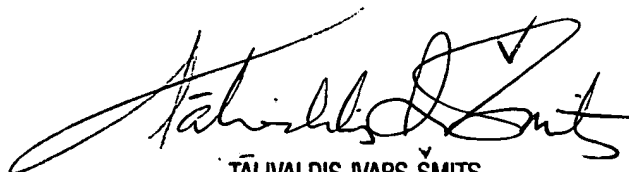
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis I. Smits can be reached on 703. 306-3011.

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRJ  
March 31, 2004

A handwritten signature in black ink, appearing to read 'Tālisvaldis Ivars Šmits', with a checkmark above the final part of the signature.

TĀLIVALDIS IVARS ŠMITS  
PRIMARY EXAMINER